KILLER HARDWARE TIPS

Too Cool To Follow Rules

IF YOU'RE A USER WHO CAN'T LEAVE THINGS ALONE IF THERE'S A CHANCE YOU CAN MAKE THEM BETTER, EVEN IF IT MEANS BUCKING THE NORM, READ ON. WE HAVE SOME TIPS and tricks that just might make you more productive.

Invasion Of The iPod People

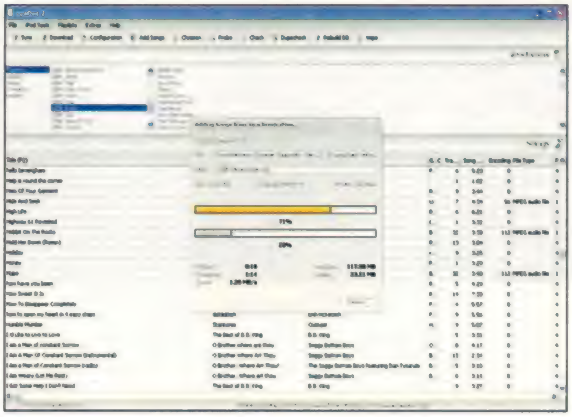
The iPod is arguably the best portable MP3 player ever, but it isn't a one trick pony. Developers are devising ways to extend its functionality beyond playing music.

Panorana iPod Organizer ($20; www.provue.com/ipodorganizer.html) turns an iPod into a read-only PDA. You can send names, phone numbers, appointments, and more from a Mac to an iPod for viewing. K-Lendar ($15 shareware; www.k-lendar.fr.st) is an iPod calendar and appointment-management app. PodNews (free; homepage.mac.com/podnews) downloads headlines, horoscopes, and jokes from the Web.

Apple is also adding contact management features to the official firmware, but hackers are way ahead of Apple.

Griffin Technology (www.griffintechnology.com) has demonstrated PodMate, an infrared transmitter that connects to the iPod's headphone jack, turning the iPod into a universal remote control. The gadget may become a consumer product.

The iPod will probably never completely replace a PDA. Most software add-ons must use a desktop to move data from the Web or a homegrown database to the iPod. For example, downloading Internet Movie Database for iPod (free; www.magma.ca/~sheppard/IMDb/iPod.html) provides a catalog of recently released movies and related information.



Windows users don't have to be shut out of the iPod fun. EphPod lets you load an iPod with music using a Windows PC.

The iPod is officially only compatible with Macs, but developers have written tools for Windows, too. EphPod (www.mentaljewelry.org/ephpod/) is a free utility for managing music in an iPod via a Windows PC. Xplay (www.mediafour.com/products/xplay) is a similar product in beta.

"As with any device that is simple and easy to use, the iPod is an attractive target for hacking," says Joe Masters, author of EphPod. "Apple really kept to the KISS principle on this device, and that pays off for developers since we're dealing with well-known entities: standard HFS+ hard drive, standard iTunes database file, standard .VCF format, etc."

EphPod goes beyond basic Apple-approved functionality, letting you add memos and download news from the Web. Masters' fantasy feature list includes weather reports, driving directions, and movie schedules.

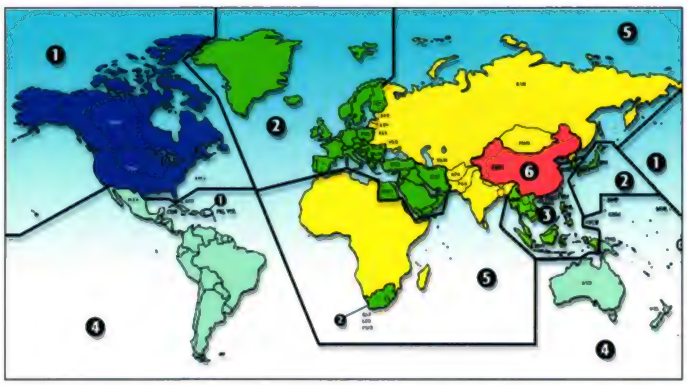
Think Global, Act Local

A friend in Japan sends a DVD with new episodes of your favorite anime, but it won't play in your DVD player. This is no accident. Players sold in the United States won't play discs intended for audiences outside the United States and Canada.

The problem is players and discs are encoded with a region, or data that tells the disc where it should and shouldn't work. Before a player shows even a frame, it compares its programmed region with the disc's encoded region. If the two don't match, the disc won't play. DVDs and players can belong to the following regions:

1. United States and Canada
2. Europe, Japan, South Africa, and the Middle East
3. Southeast Asia and East Asia
4. Australia, New Zealand, Pacific Islands, Central America, Mexico, South America, and the Caribbean
5. Eastern Europe, Africa, North Korea, and Mongolia
6. China
7. Reserved for future use
8. Special international venues, such as cruise ships and airplanes
10. Region-free discs for use in any DVD player

Short of going to Japan, the best workaround is using a region-free DVD player, which is a hacked unit that plays DVDs from any region. Several companies, including Code Free DVD (www.codefreedvd.com) and DVDspecialty.com (www.dvdspecialty.com), sell modified players that play discs from all regions. Expect to pay $150 to $250 more than the street price and the player's warranty to be void.



This map details the various regions that DVD discs and players are designed to work exclusively in. Available hacks let you bypass this restriction and watch DVD movies from regions outside the one you live in.

To add multiregion support to a player, visit Region Free DVD (www.regionfree dvd.net). The site offers information on how to hack players. Various methods include firmware upgrades, chipping (installing a chip to override the player's regular behavior), and for many players, typing a secret code on the remote control to unlock the player's single-region fixation.

"Hacking a DVD player by changing the circuitry or firmware is quite difficult. Hacking a player by knowing a secret code is generally pretty easy," says Jim Taylor, author of "DVD Demystified" and the DVD FAQ (www.dvddemystified.com).

You can modify DVD players in three basic ways. The best way is manual region setting, or using an on-screen menu to tell the player the region it should claim it belongs to. Automatic region selection entails the player switching regions on the fly, depending on what it thinks the disc needs. This sounds more convenient but some discs are programmed to intentionally fool such players into selecting the wrong region, making them unplayable. The oldest method, known as Region 0, makes the player attempt to bypass the disc's region check. Few new discs work at all on players with this hack, however. Before installing any hack, know the region-evasion method it uses, its limitations, and how to undo your changes if needed.

Is modifying a player legal? Taylor believes not. "The thing that prohibits a player from being able to play discs from multiple regions is the CSS license," he says. CSS (Content Scramble System) is an encryption system used on most DVDs to prevent piracy.

"In order to get the CSS license, a player manufacturer has to agree to make the player work for a single region. If a manufacturer makes a multiregion player, then they still have not necessarily done something illegal, other than violate the terms of a signed agreement. If someone else, not party to the agreement, modifies the player, then they haven't done anything illegal," says Taylor.

Why are region codes needed? The DVD Copy Control Association (www .dvdcca.org) states, "Movies are often released at different times in different parts of the world. Regional DVD coding allows viewers to enjoy films on DVD at home shortly after their region's theatrical run is complete. . . . Without regional coding, all home viewers would have to wait until a film completes its entire global theatrical run before a DVD could be released anywhere."

Video formats complicate the issue. Even if your player can play European DVDs, your television probably can't display the European PAL video format. Some DVD players will convert to the U.S. standard NTSC signal, however. Other player hacks are possible, too. Region Free DVD lists such hacks as enabling VCD support, disabling macrovision, and exploring files on a DVD.

Speed Demon

There are many ways to measure a computer's speed. Revolutions per minute, however, isn't typically one of them—until now. The PC Tachometer kit from Xoxide ($60; www.xoxide.com/pctachometer1 .html) is a hardware hack for people looking for an unusual case mod. The hack adds an analog tachometer dial to your PC, connected via a serial port. The harder the CPU works, the higher the tach's meter points. Using included software, a full CPU load reads 8,000rpm.

You can also scavenge an electronic tachometer from a junkyard and build your own. Xoxide sells schematics and Windows software ($15; shop.store.yahoo.com/ xoxide/pctacsof.html).

If you run SETI@home, distributed.net, or other software that keeps your processor usage at 100% full time, staring at a pegged CPU meter might not be very interesting. Write your own software to make that old-school analog meter display network activity, drive capacity, and more. CPU

by Kevin Savetz

Infinite Loop

Prolific Peripherals & Rascally Rodents

As part of its first major OEM contract for mice, Logitech produced about 3,000 mice for Apollo Computers in 1983. In the most recent fiscal year, Logitech sold more than 50 million mice. Yes, mouse popularity has multiplied exponentially, but do mice really multiply like, well, mice? What if Logitech had sent Apollo rodents instead of peripherals? We'd have 189 billion times as many Logitech mice roaming our desktops. Could someone call an exterminator, please?

	Logitech's Peripheral Mouse Population	Population If Logitech Had Sent Apollo Rodents
1983	3,000[a]	2,070[c, d]
FY 2002	50,216,202[a, b]	9.5 quintillion (9.5 x 10^18)[c, d]

a Source: Logitech

b FY 2002 ended March 31, 2002. Includes retail and OEM sales. This number encompasses only one year of sales, rather than all installed Logitech mice, to more closely resemble the lifespan of rodents.

c Source: Assuming a 7% growth rate and exponential rather than logistical growth.

d Source: Formula based on the observations of Singleton, Smith & Krebs ("The prevalence of viral antibodies during a large population fluctuation of house mice in Australia." Epidemiology And Infection. v.125, no.3, p.719)